

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (original) A plasticating process comprising the steps of:
loading a plasticator with a plurality of molding materials;
creating a mixture with the plurality of molding materials in the plasticator; and
plasticating the mixture of said plurality of molding materials at a controlled temperature and pressure in order to create a billet having predetermined billet characteristics.

2 – 76 (cancelled)

77. (new) A screw for use in a plasticator having a barrel, said screw comprising:
a root; and
a plurality of threads located on the root configured to permit a polyester, a carbocyclic and a plurality of reinforcing fibers to be mixed to provide a billet having predetermined billet characteristics without damaging a substantial number of said reinforcing fibers.

78. (new) The screw as recited in claim 77 wherein the screw further comprises a feeding section, a blending section and an extruding section associated with a heating portion, a blending portion and an extruding portion, respectively, of said barrel when said screw is located in a home position in said barrel;
said feeding section comprising a first plurality of threads having a feeding thread depth, said blending section comprising a second plurality of threads having a blending thread depth, and said extruding section having a third plurality of threads having an extruding thread depth;
said feeding thread depth being greater than said extruding thread depth.

79. (new) The screw as recited in claim 77 wherein the screw further comprises a feeding section, a blending section and an extruding section associated with a heating portion, a blending portion and an extruding portion, respectively, of said barrel when said screw is located in a home position in said barrel;

said feeding section comprising a first plurality of threads having a feeding thread depth, said blending section comprising a second plurality of threads having a blending thread depth, and said extruding section having a third plurality of threads having an extruding thread depth;

said second plurality of threads having a pitch which is generally greater than the pitch of said first plurality of threads.

80. (new) The screw as recited in claim 79 wherein said screw comprises a feeding end and an extruding end; said root being generally tapered such that the depth of said plurality of threads located at said feeding end are substantially greater than the depth of threads located at said extruding end.

81. (new) The screw as recited in claim 80 wherein said screw comprises a plurality of thread depths.

82. (new) The screw as recited in claim 81 wherein said plurality of thread depths are about greater than 0.5 inch.

83. (new) A method for utilizing landfill destined materials comprising at least one contaminated polymer, comprising the steps of:

processing the at least contaminated polymer to provide processed molding materials;

producing a part directly from the processed molding materials using one thermal heat rise.

84. (new) The method as recited in claim 83 wherein said processing step comprises the step of:

shredding at least one contaminated polymer or a polymer matrix.

85. (new) The method as recited in claim 83 wherein said producing step comprises the step of:

plasticating the processed molding materials into a billet.

86. (new) The method as recited in claim 85 wherein said producing step further comprises the step of molding the billet into the part.

87. (new) The method as recited in claim 83 wherein said producing step comprises the step of:

heating the processed molding materials between a controlled temperature range of between 375 - 575 degrees Fahrenheit.

88. (new) A screw for use in a plasticator plasticizing a fiber-reinforced thermoplastic resin wherein the screw is a screw comprising a feeding section, a blending section for leading the heated molding material conveyed from the feeding section and an extruding section for conveying the molding material to said extruding section, wherein a screw length of the compression section changes over a length of said screw.

89. (new) The screw as recited in claim 88 wherein said length decreases.

90. (new) The screw as recited in claim 88 wherein a lead length of threads at said feeding section is greater than a lead length at said blending section.

91. (new) The screw as recited in claim 88 wherein a length of said threads at said feeding section is greater than a length of threads at at least one of said blending section or said extruding section.

92. (new) The screw as recited in claim 89 wherein a length of said threads at said feeding section is greater than a length of threads at at least one of said blending section or said extruding section.

93. (new) The screw as recited in claim 90 wherein a length of said threads at said feeding section is greater than a length of threads at at least one of said blending section or said extruding section.